Ontario

Apprenticeship
In-school Curriculum Standards

Floor Covering Installer

Level 1 & 2

448A

Ministry of Training, Colleges and Universities

Apprenticeship
In-school Curriculum Standards

Floor Covering Installer

Level 1 & 2

448A

Implementation date: September 2009
Printing date: April 2010

ISBN 978-1-4435-2171-0 (Print)
ISBN 978-1-4435-2172-7 (PDF)

Printed on recycled paper

© Queen's Printer for Ontario, 2010

09-314

TABLE OF CONTENTS

Introduction 1

Program Summary of Reportable Subjects 2

LEVEL 1 3

S0051 Trade Practices and Procedures 4
S0051.1 Health and Safety 5
S0051.2 Tools and Equipment 7
S0051.3 Customer Relations 8
S0051.4 Introduction to Floor Preparation 10
S0051.5 Applied Trade Calculations 12
S0051.6 Base Finishes 13

S0052 Floor Plans and Layout Procedures 15
S0052.1 Material Layour and Job Organization 16
S0052.2 Drawing to Scale 17
S0052.3 Estimating of Material Quantities 18

S0053 Resilient Floor Covering 1 19
S0053.1 Resilient Tile 20
S0053.2 Resilient Sheet Goods 22

S0054 Carpet Floor Covering 1 24
S0054.1 Carpet Tiles 25
S0054.2 Glue Down Carpet 27
S0054.3 Stretch – In Carpet 29

S0055 Wood and Laminate Floor Covering 1 32
S0055.1 Solid Wood Flooring 33
S0055.2 Engineered and Laminate Floating Flooring 36
S0055.3 Finishing 38

Level 1 Suggested Projects 39

Summary of Equipment Required for Level 1 40

LEVEL 2 43

S0056 Applied Trade Calculations 44
S0056.1 On-Site Measuring 45
S0056.2 Costing Calculations 46
S0056.3 Estimating 47

S0057 Blueprints, Specification Reading and Layout 48
S0057.1 Blueprint Reading 49
S0057.2 Layout 50
S0057.3 Blueprint Specifications 51

S0058 Resilient Floor Covering 2 52
S0058.1 Resilient Tile 53
S0058.2 Resilient Sheet Goods 55

S0059 Carpet Floor Covering 2 57
S0059.1 Glue Down Carpet 58
S0059.2 Stretch – In Carpet 60
S0059.3 Specialty Carpet 63

S0060 Wood and Laminate Floor Covering 2 64
S0060.1 Solid Wood Flooring 65
S0060.2 Engineered and Laminate Flooring 69
S0060.3 Finishing and Sanding 71

Level II Suggested Projects 75

Summary of Equipment Required for Level 2 76

Introduction

This new curriculum standard for the Floor Covering Installer trade program is based upon the on-the-job performance objectives, located in the industry-approved training standard.

The curriculum is organized into two levels of training. The Program Summary of Reportable Subjects chart summarizes the training hours for each reportable subject.

The curriculum identifies only the learning that takes place off-the-job. The in-school program focuses primarily on the theoretical knowledge and the essential skills required to support the performance objectives of the Apprenticeship Training Standards. Employers/Sponsors are expected to extend the apprentice's knowledge and skills through practical training on the work site. Regular evaluations of the apprentice's knowledge and skills are conducted throughout training to ensure that all apprentices have achieved the learning outcomes identified in the curriculum standard.

It is not the intent of the in-school curriculum to perfect on-the-job skills. The practical portion of the in-school program is used to reinforce theoretical knowledge. Skill training is provided on the job.

Program Summary of Reportable Subjects – Level 1

Number	Reportable Subjects	Hours Total	Hours Theory	Hours Practice
S0051	Trade Practices and Procedures	72	46	26
S0052	Floor Plans and Layout Procedures	57	57	0
S0053	Resilient Floor Covering I	72	24	48
S0054	Carpet Floor Covering I	78	18	60
S0055	Wood and Laminate Floor Covering I	21	8	13
	Total	**300**	**152**	**148**

Program Summary of Reportable Subjects – Level 2

Number	Reportable Subjects	Hours Total	Hours Theory	Hours Practice
S0056	Applied Trade Calculations	39	39	0
S0057	Blueprints, Specification Reading & Layout	39	39	0
S0058	Resilient Floor Covering 2	99	24	75
S0059	Carpet Floor Covering 2	78	22	56
S0060	Wood and Laminate Floor Covering 2	45	13	32
	Total	**300**	**137**	**163**

Floor Covering Installer

Level 1

Floor Covering Installer – Level 1

Number: **S0051**

Reportable Subject: **TRADE PRACTICES AND PROCEDURES**

Duration: Total 72 hours Theory 46 hours Practical 26 hours

Content:

S0051.1 Health and Safety
S0051.2 Tools and Equipment
S0051.3 Customer Relations
S0051.4 Introduction to Floor Preparation
S0051.5 Applied Trade Calculations
S0051.6 Base Finishes

Evaluation & Testing: Assignments related to theory and appropriate application skills
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
50%	20%	30%

Instructional and Delivery Strategies: Lecture and assignment work.

Reference Materials: Product information as supplied by the manufacturer:

- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

Floor Covering Installer – Level 1

S0051.1 Health and Safety

Duration: Total 7 hours Theory 7 hours Practical 0 hours

Cross-Reference to Training Standard: U5281.01 to U5281.04, U5281.08

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able to describe the Health and Safety, Acts and Regulations, safe work practice procedures required to work in the Floor Covering Industry in accordance with government safety regulations, manufacturer's recommendations and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Identify the benefits for physical fitness, strength, and safe material handling techniques as a tradesperson and the need for proper warm-up on the job.

1.2 Identify the different types and specific functions of personal protective equipment (PPE's).

- Protective clothing
- Headgear
- Eyewear
- Footwear
- Kneewear
- Breathing apparatus

1.3 Apply the Occupational Health & Safety Act and identify hazards such as:

- Obstacles
- Inadequate Ventilation
- Construction Debris

1.4 State the requirements for Workers' Compensation Coverage, WHMIS training and Material Safety Data Sheets, Emergency First-Aid, Fire Procedures and Safety committees.

1.5 Determine the appropriate safe and correct methods for waste disposal.

1.6 Identify the nature and the severity of hazardous materials and handle or dispose of them in accordance with WHMIS guidelines.

1.7 Select, fit, wear, and maintain personal protective equipment in accordance with the Occupational Health & Safety Act.

- Protective clothing
- Headgear
- Eyewear
- Footwear
- Kneewear
- Breathing apparatus
- Fall arrest equipment

1.8 Outline posting requirements for pertinent safety regulations and policies and Material Safety Data Sheets (MSDS).

Floor Covering Installer – Level 1

S0051.2 Tools and Equipment

Duration: Total 5 hours Theory 3 hours Practical 2 hours

Cross-Reference to Training Standard: U5281.05 to U5281.08

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able to describe, use and maintain trade specific tools and equipment in accordance with government safety regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Identify and select both the hand and power tools of the Floor Covering Trade as per specific job.

2.2 State the correct uses of and the required maintenance techniques for the tools of the trade as per manufacturers' specifications.

2.3 Identify the types and uses of material handling equipment.

- Dollies
- Carpet Carts
- Hoisting Devices

2.4 Practice safe and correct use of the Floor Covering Trade tools.

2.5 Sharpen floor covering knives correctly and maintain tools in good working condition.

S0051.3 Customer Relations

Duration: Total 8 hours Theory 8 hours Practical 0 hours

Cross-Reference to Training Standard: U5282.01 to U5282.03, U5282.05 to U5282.09, U5283.06

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able to describe how to communicate effectively with clients in accordance with the best interests of his or her company.

LEARNING OUTCOMES AND CONTENT

3.1 Perform a role play of the communication between worker and customer, assuming either role.

- Listening Skills
- Control of Emotions
- Verbal Skills
- Written Skills

3.2 Apply appropriate methods to prevent damage to the surfaces of the client's house and property.

- Clean Footwear
- Floor Covering Protection
- Positioning of tools and Equipment

3.3 Ascertain deficiencies by joint inspections and act on customer's requests of repair.

3.4 Describe the role of a Mentor and Coach in support of an apprentice trainee in accordance with the typical workplace challenges.

- Coaching techniques
  - become knowledgeable of flooring products and company policies
  - provide instruction to other co-workers or trainees
  - build and maintain a relationship with co-workers or trainees
  - observe the trainee and resolve problems as they arise
  - set high standards and be a good example
  - show respect to the trainee and be patient as they learn
  - build a team atmosphere

- Mentoring techniques

  - become a trusted guide to a co-worker or trainee
  - create a supportive environment for trainee to learn
  - become a trusted advisor or counselor
  - assist trainee's to resolve workplace and personal problems
  - provide ongoing assessment and feedback of trainees progress
  - try to be accessible and approachable
  - encourage trainees and co-workers
  - motivate trainees and co-workers to look for solutions to problems

S0051.4 Introduction to Floor Preparation

Duration: Total 22 hours Theory 6 hours Practical 16 hours

Cross-Reference to Training Standard: U5284.01 to U5284.06

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able top prepare a sub-floor to receive the prescribed floor covering material in accordance with government safety regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

4.1 Identify the three grade levels and their special preparation requirements, and state the importance of preparing a sub-floor in order to ensure; high standards of installation.

- Above grade
- On grade
- Below grade

4.2 Determine the individual requirements of the floor preparation task in relation to the material being installed.

4.3 Identify the types and methods of application of sub-floor testing.

- Moisture
- Bond
- pH

4.4 Identify the types and characteristics of underlayment material.

- Particle board
- Plywood
- Hardboard
- Oriented Strand Board (O.S.B.)
- Mastic underlayments

4.5 Identify types and spacing of fasteners.

- Nails
- Screws
- Staples

4.6 Determine the need for removal of existing materials and identify the types and applications of patching compounds.

4.7 Prepare concrete floors.

- First, test moisture, bond and pH
- Second, apply, self-leveling and leveling/filling patch compounds

4.8 Prepare wood floors by installing underlayment with appropriate staples, screws, and nails, and filling and sanding seams and holes.

4.9 Remove existing flooring, perform cleanup of sub-floor, and apply embossing levelers and specified sealers.

S0051.5 Applied Trade Calculations

Duration: Total 20 hours Theory 20 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.05, U5285.02, U5286.02, U5288.02, U5290.02

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform basic calculations in Metric and Imperial Units in accordance with the Flooring Industry requirements.

LEARNING OUTCOMES AND CONTENT

5.1 Perform addition, subtraction, multiplication, and division of whole numbers.

5.2 Perform addition, subtraction, multiplication, and division of fractions, and identify proper and improper fractions, mixed numbers, and lowest common denominator as used in the Imperial system.

5.3 Add, subtract, multiply, and divide decimals in System International (S.I.) applications, using the concepts of rounding of decimals, and decimal: fraction conversions.

5.4 Convert imperial measures to S.I. measures and vice versa.

5.5 Calculate the areas and perimeters of squares and rectangles and their combinations.

5.6 Calculate the areas and perimeters of triangles, trapezoids, and circles.

5.7 Describe the construction and application of scaling rulers for blueprint reading.

S0051.6 Base finishes

Duration: Total 10 hours Theory 2 hours Practical 8 hours

Cross-Reference to Training Standard: U5286.08, U5287.10, U5289.10, U5290.10, U5291.09

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to install base finish materials in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

6.1 Identify the sizes and characteristics of the types of base & cove and toeless finish materials.

- Vinyl
- Rubber cove
- Toeless
- Carpet
- Wood
- Adhesives
- Specified tools

6.2 Describe installation methods for base finishes and the importance of the use of the tools and the prescribed adhesives.

6.3 List the steps required to perform a successful job cleanup and repair of floor.

6.4 Perform cutting, dry fitting, adhesion and fastening procedures required to install the different types of base and trim materials.

- Vinyl
- Rubber cove
- Toeless
- Carpet
- Wood

6.5 Perform scribing and mitering procedures required for inside and outside corners and coping.

6.6 Remove and repair damaged base materials

Number: **S0052**

Reportable Subject: **FLOOR PLANS AND LAYOUT PROCEDURES**

Duration: Total 57 hours Theory 57 hours Practical 0 hours

Prerequisites: Reportable Subject: 1.0

Content:

S0052.1 Material Layout and Job Organization
S0052.2 Drawing to Scale
S0052.3 Estimating of Material Quantities

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
70%	0%	30%

Instructional and Delivery Strategies:

Reference Materials:

S0052.1 Material Layout and Job Organization

Duration: Total 21 hours Theory 21 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.01, U5283.02, U5283.04 to U5283.07

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able to develop floor seaming plans from the blueprints and from on-site measurements in accordance with manufacturers' specifications.

LEARNING OUTCOMES AND CONTENT

1.1 Identify conditions and obstacles that affect the layout of flooring materials and accessories.

- Furniture
- Appliances
- Temperature
- Access

1.2 Perform measuring, scaling, and sketching procedures for a floor seaming plan.

1.3 Determine layout schemes for specified materials and establish material and labour components for a job.

- Job Site Access
- Material Delivery
- Material Storage
- Material Layout Schemes

S0052.2 Drawing to Scale

Duration: Total 17 hours Theory 17 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.05

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to produce working drawings to scale in accordance with blueprint specifications for related flooring installation tasks.

LEARNING OUTCOMES AND CONTENT

2.1 Identify types and application of drawings.

- Floor plans
- Elevations
- Details
- Room schedules

2.2 Reproduce working drawings that include:

- Dimension lines
- Arrowheads
- Hidden lines
- Area identification
- Abbreviations
- Symbols

2.3 Perform measurements and scaling dimensions using Imperial and S.I. Units.

- Use of scaling tools
- Calculator

S0052.3 Estimating Of Material Quantities

Duration: Total 19 hours Theory 19 hours Practical 0 hours

Cross-Reference to Training Standard: U5282.02, U5283.05

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform basic calculations (in S.I. and Imperial) and consider counting waste for estimating quantities of flooring materials for a given job.

LEARNING OUTCOMES AND CONTENT

3.1 Perform an estimate of the following material quantities based on the application as found on the given floor seaming plan:

- Carpet
- Resilient tiles
- 6 ft (2m) resilient flooring
- 12 ft (4m) resilient flooring
- Wood flooring
- Accessories, including; cove, base, glue, and tackless
- Waste requirements

Number **S0053**

Reportable Subject: **RESILIENT FLOOR COVERING I**

Duration: Total 72 hours Theory 24 hours Practical 48 hours

Prerequisites: Reportable Subject: 1.0

Content: S0053.1 Resilient Tile
S0053.2 Resilient Sheet Goods

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
70%	0%	30%

Instructional and Delivery Strategies: Teacher-led practical skills training with demonstration.

Reference Materials: Product information as supplied by the manufacturer:

- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0053.1 Resilient Tile

Duration: Total 24 hours Theory 6 hours Practical 18 hours

Cross-Reference to Training Standard: U5285.01 to U5285.07

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform the installation procedures for resilient floor tile products in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards

LEARNING OUTCOMES AND CONTENT

1.1 Identify the types and characteristics of resilient floor tiles and accessories.

- Vinyl composite tile (VCT)
  - self-stick
  - dry back
  - rubber
  - linoleum
  - solid vinyl
- Adhesives
- Mouldings
- Accessories

1.2 Describe the recommended installation methods for resilient tiles.

- Use of prescribed tools
- Prescribed adhesives
- Prepare sub-floor

1.3 Determine the steps necessary to take in order to adequately prepare the sub-floor.

1.4 Describe the installation techniques for resilient tiles.

- Monolithic (corner to corner)
- Diagonal
- Alternate grain
- Ashlar

1.5 List the steps required to perform a successful cleanup and repair procedure of a floor covering job.

- Remove all cutting debris
- Remove glue residue
- Remove any installation debris

1.6 Describe the installation procedures of resilient tiles on boxed or closed stringer stairs.

1.7 Perform the recommended testing and preparation procedures of sub-floors to accept various flooring materials.

1.8 Perform cutting and fitting of vinyl composite (VCT) to suit a set floor plan.

- Direct scribing
- Pattern scribing
- Equal overlap
- Templates

1.9 Perform installation and adhesion procedures of VCT tile and accessories (nosings and reducers) to a prescribed pattern layout.

- Sealing perimeter to prevent moisture penetration

1.10 Install VCT tile to boxed stairs and roll to ensure proper bond.

1.11 Remove, repair and maintain damaged resilient tiles.

S0053.2 Resilient Sheet Goods

Duration: Total 48 hours Theory 12 hours Practical 36 hours

Cross-Reference to Training Standard: U5286.01 to U5286.09

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform installation procedures for resilient sheet goods in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Describe the types and characteristics of resilient sheet goods and accessories.

- Linoleum
- PVC
- Rotogravure
- Rubber
- Safety floor
- Backing
  - with full spread and perimeter spread
  - without full spread and perimeter spread adhesives
- Mouldings
- Accessories

2.2 Describe installation methods for resilient sheet goods.

- Use of prescribed tools
- Prescribed adhesives
- Seam sealers
- Welding
  - liquid
  - heat

2.3 List the steps required to perform a successful job cleanup, repair and maintenance of resilient sheet good floors.

- Remove glue residue
- Waste disposal and removal of any installation debris
- Application of protective coatings (if required)

2.4 Layout 6'(2m) and 12'(4m) inlaid and cushion floor according to method of installation.

2.5 Perform cutting and fitting procedures for resilient flooring:

- Pattern match
- Use of pattern scribe
- Free hand
- Direct scribe
- Strip measure

2.6 Apply adhesive and roll resilient flooring to ensure proper bond.

2.7 Install resilient flooring to boxed stairs, and install accessories and seam sealers.

- Use of a recess scriber
- Double cut technique
- Cut and butt technique

2.8 Remove, repair and maintain damaged resilient flooring and perform recommended waste disposal.

Number: **S0054**

Reportable Subject: **CARPET FLOOR COVERING I**

Duration: Total 78 hours Theory 18 hours Practical 60 hours

Content:
S0054.1 Carpet Tiles
S0054.2 Glue-Down Carpet
S0054.3 Stretch-In Carpet

Evaluation Structure: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
70%	0%	30%

Instructional and Delivery Strategies: Lecture and assignments:

Reference Materials: Product information as supplied by the manufacturer:
- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0054.1 Carpet Tiles

Duration: Total 10 hours Theory 2 hours Practical 8 hours

Cross-Reference to Training Standard: U5288.01 to U5288.07

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform carpet installation procedures in accordance with government regulations, manufacturer's recommendations and specifications, Carpet and Rug Institute (C.R.I.) and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Identify the types and applications of carpet tile floor covering materials.

- Backing
- Adhesives
- Mouldings
- Accessories
- Seam sealers

1.2 Perform the recommended testing and preparation procedures of sub-floors to accept carpet tiles.

1.3 Describe installation methods for carpet tile floor covering.

- Specified tools
- Prescribed adhesives

1.4 List the steps required to perform a successful job cleanup and repair of floor.

- Remove glue residue
- Remove any installation debris
- Follow recommended waste disposal

1.5 Describe the carpet tile installation procedures for various types of stairs and floors.

1.6 Perform carpet tile installation procedures on stairs and floors.

- Layout
- Cutting
- Fitting
- Adhesion
- Roll (bond)

1.7 Remove, repair and maintain damaged carpet tiles.

S0054.2 Glue-Down Carpet

Duration: Total 8 hours Theory 8 hours Practical 0 hours

Cross-Reference to Training Standard: U5287.01 to U5287.11

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform the installation procedures for glue down carpet in accordance with government regulations, manufacturer's recommendations and approved industry standards

2.1 Identify the types and applications of glue-down carpet materials.

- Backing
- Adhesives
- Mouldings
- Accessories
- Seam sealers

2.2 Perform the recommended testing and preparation procedures of sub-floors to accept glue down carpet.

2.3 Describe maintenance and installation methods for glue-down carpet.

- Seam sealing
- Specified tools

2.4 List the steps required to perform a successful job cleanup and repair of floor.

- Remove glue residue
- Remove any installation debris
- Follow recommended waste disposal

2.5 Describe the glue-down carpet installation procedures for the various types of stairs.

2.6 Perform glue-down carpet installation procedures to a set floor.

- Pattern Match
- Layout
- Cutting
- Fitting
- Adhesion

2.7 Perform glue-down carpet seam cutting procedures.

- Row Cutting
- Trace Cutting
- Double Cutting
- Straight Edge

2.8 Apply adhesive and seam sealer and roll carpet to ensure proper bond.

2.9 Install glue-down carpet and accessories to stairs.

- Boxed stringers
- Closed stringers

2.10 Remove, repair and maintain damaged glue-down carpet.

S0054.3 Stretch – In Carpet

Duration: Total 44 hours Theory 10 hours Practical 34 hours

Cross-Reference to Training Standard: U5289.01 to U5289.11

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform the installation procedures for stretch-in carpet in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards

LEARNING OUTCOMES AND CONTENT

3.1 Identify the types and applications of stretch-in carpet materials.

- Backing
- Underpad
- Moulding

3.2 Identify types and components of the following stairs.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- 0pen riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

3.3 Perform the recommended testing and preparation procedures of sub-floors to accept stretch - in carpet.

3.4 Describe installation methods for tufted carpet and the importance of power stretching and seam sealing including hot melt seams.

- Power stretching procedure
- Hot melt Seam sealing procedure

3.5 List the steps required to perform a successful job cleanup and repair of floor.

- Remove glue residue
- Remove any installation debris
- Follow recommended waste disposal

3.6 Describe the procedures for the installation of stretch-in carpets on various types of stairs.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

3.7 Perform installation procedures of stretch-in carpet.

- Installation of carpet accessories
  - tackless strip
  - underpad
  - naploc
  - bar & cap
  - Z bar
  - others
- Cut and fit carpet to suit floor layout.
- Place carpet in position using a knee kicker.
- Perform carpet seam sealing procedures.
  - hot melt process
  - latex, acrylic, thermo plastic
  - cold tape

- Perform sealing of carpet edges before seaming
- Perform carpet seam cutting procedures.
  - row cutting
  - trace cutting
  - double cutting
  - straight edge
- Power stretch carpet as per manufacturers' specifications.
- Install stretch-in carpet to various types of stairs.
  - boxed (winder)
  - open one end
  - French cap
  - upholstered
  - waterfall
  - central runner
- Remove, repair and maintain damaged carpet.

Number: **S0055**

Reportable Subject: **WOOD AND LAMINATE FLOOR COVERING I**

Duration: Total 21 hours Theory 8 hours Practical 13 hours

Content:

S0055.1 Pre-finished hardwood flooring
S0055.2 Engineered and Laminate Floating Flooring
S0055.3 Finishing

Evaluation Structure: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
20%	50%	30%

Instructional and Delivery Strategies: Teacher-led practical skills training with demonstration and observation in flooring shop.

Reference Materials: Manuals and Practical exercises based on National Wood Floor Association (N.W.F.A.)

Product information as supplied by the manufacturer:

- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0055.1 Solid Wood Flooring

Duration: Total 11 hours Theory 3 hours Practical 8 hours

Cross-Reference to Training Standard: U5290.01 to U5290.07, U5290.11

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform installation procedures of pre-finished hardwood flooring in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Define the factors that affect the quality and durability of pre-finished hardwood flooring.

- Moisture and related sources
- Wood's acclimation
- Radiant heating
- Wood species
  - hardness
  - stability
- Grading
- Substrate awareness
- Grade Levels

1.2 Identify the characteristics of pre-finished, laminated or solid hardwood flooring.

- Size
- Style
- Composition
- Adhesives
- Fasteners
- Accessories

1.3 Perform the recommended testing and preparation procedures of sub-floors to accept solid wood flooring.

1.4 Describe layout and installation methods for pre-finished hardwood flooring.

- Determine installation technique based on location relative to grade and structure of sub-floor.
- Nailing
- Stapling
- Adhesives
- Prescribed tools
- Racking

1.5 List the steps required to perform a successful job cleanup and repair of floor.

- Remove material cuttings
- Remove glue residue
- Remove installation debris
- Vacuum area
- Touch up or fill voids

1.6 Describe the procedures for the installation of pre-finished hardwood flooring on the various types of stairs including the use of nosings and reducers.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

1.7 Perform cutting and fitting procedures to install hardwood flooring to suit given a floor layout.

- Straight cutting
- Angle cutting
- Circular cutting
- Hand cutting

1.8 Perform manufacturer's recommended installation procedures for strip flooring using pneumatic nailers, and install parquet and laminated plank flooring using prescribed adhesives.

- Strip flooring
  - pneumatic nailers
  - electric nailers
- Parquet and laminate plank flooring
  - prescribed adhesives

1.9 Perform manufacturer's recommended installation procedures for hardwood flooring accessories.

- Reducers
- T-caps
- Baseboards
- Shoe mouldings
- Quarter round mouldings

1.10 Perform removal, repair and maintenance procedures for hardwood flooring.

- Describe the recommended use of prybars
- Describe the recommended use of cut out saws
- Outline the waste disposal procedures
- Explain the recommended use of specified cleaning materials

S0055.2 Engineered and Laminate Floating Flooring

Duration: Total 7 hours Theory 3 hours Practical 4 hours

Cross-Reference to Training Standard: U5291.01, to U5291.09

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to perform installation procedures of engineered and laminate floating flooring in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Identify the characteristics of engineered and laminated floating flooring.

- Engineered flooring
  - durability
  - sizes
  - composition
  - manufacturing process
- Laminated flooring
  - durability
  - sizes
  - composition
  - manufacturing process

2.2 Perform the recommended testing and preparation procedures of sub-floors to accept engineered and laminate floating flooring.

2.3 Describe layout and installation methods for engineered and laminated floating flooring.

- Determine installation technique based on location relative to grade and structure of sub-floor
- Adhesives
- Prescribed tools

2.4 Describe the procedures for the installation of engineered and laminated floating flooring on the various types of stairs including the use of nosing and reducers.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

2.5 Perform cutting and fitting procedures to install engineered or laminate flooring to suit given a floor layout.

- Straight cutting
- Angle cutting
- Circular cutting
- Hand cutting and sanding

2.6 Perform installation procedures for engineered or laminate flooring accessories.

- Reducers
- T-caps
- Baseboards
- Shoe mouldings
- Quarter round mouldings
- End cap

2.7 Perform removal, repair and maintenance procedures for engineered and laminate flooring.

- Use of prybars
- Cut out saws
- Colour matching
- Sanding and finishing

S0055.3 Finishing

Duration: Total 3 hours Theory 2 hours Practical 1 hours

Cross-Reference to Training Standard: U5290.08 to U5290.10

GENERAL LEARNING OUTCOME

Upon successful completion, the apprentice is able to describe finishing procedures for wood flooring in accordance with government regulations, manufacturer's recommendations and approved industry standards.

LEARNING OUTCOMES AND CONTENT

3.1 Describe pre-finishing procedures for unfinished hardwood flooring.

- Sanding process
- Staining process
- Top coat application
- Safety concerns

3.2 Describe the procedures for sanding a hardwood floor.

- Identify recommended sanding grits
- Describe recommended sanding directions and pressures
- Identify recommended sanding depths

3.3 Describe the composition and characteristics of sealer and top coat materials used on hardwood flooring.

3.4 Describe the safety procedures for finishing hardwood flooring.

- Outline required ventilation procedures
- Eliminate potential ignition sources of flammable fumes

LEVEL 1: Suggested Projects

1	Preparation	Patching - Concrete Patch
2	Stretch-In	Preparation - Gripper and Pad
2A	Stretch-In	Seaming and Stretching installation
3	Stretch-In	Carpet Repairs - Seam and Damage Repairs
4	Stretch-In	2 Room Installation - Seaming and Stretching
5A	Stretch-In	Stairs - Waterfall Installation
5B	Stretch-In	Stairs - Sculptured
5C	Stretch-In	Stairs - Runner Installation
6	Glue-Down	Room Installation
7	Glue-Down	Stringer Installation
8	Glue-Down	Stair Installation
9	Tile	Square Layout Installation
10	Tile	Diagonal Layout Installation
11	Tile	Stair Installation c/w nosing
12	Resilient	Free Hand Installation
13	Resilient	Direct Scribe Installation
14	Resilient	Pattern Scribe Installation
15A	Resilient	Pattern Match - Direct Scribe Installation
15B	Resilient	Pattern Match - Pattern Scribe Installation
16A	Resilient	Stairs - Inlaid Flooring c/w nosing
16B	Resilient	Stairs - Cushion Flooring c/w nosing
17	Resilient	Whole Room Installation - any method

Total 22 Projects

Summary of Equipment Required for Level 1

Unit 1: Recommended Minimum Equipment:

General Tools and Quantities

1 - carpet knife
1 - breakaway/utility knife
1 - adhesive spreader/trowel
2 - framing squares
4 - cove base groovers
1 - hammer (20 oz.)
2 - white rubber mallets
2 - pliers
4 - cold chisels
1 - chalk line
1 - putty knife
1 - hand scraper
1 - knife tool pouch
2 - combination squares
2 - brooms & brushes
1 - 1" x 25' tape measure
2 - extension cords
1 - sharpening stone & holder
1 - moulding lifter
2 - straight edges (6' - 8')
1 - notched blade knife/hook
1 - leveling trowel
4 - hand saws
4 - undercut saws
2 - nail sets
1 - screw driver set
4 - aviation snips
4 - wood chisels
4 - files
4 - adjustable wrenches
4 - telescopic scrapers
4 - nail driving bars
4 - caulking guns
2 - mitre boxes - 90E & 45E
2 - hack saws
2 - spot nailers
4 - sliding T - bevels
4 - awls
4 - hot melt glue guns
4 - 75 lb or 100 lb rollers

Safety equipment per student

1 - knee pad set
1 - hard hat
4 - respirators per class
1 - safety glasses
1 - hearing protection

Job site equipment

- 4 ft. level
- box of white rags
- dollies or hand trucks
- moisture test kit
- hammer drill
- vacuum cleaner
- anchorite tools
- pH test kit
- circular saw
- plumb bobs

Unit 2: Recommended Minimum Equipment:

- Scaling Tools
- Calculators

Unit 3: Recommended Minimum Equipment:

- Extension wall roller
- Bar scriber
- Pin Vice
- Recess scriber
- Wall trimmer
- Tile cutter
- Linoleum knife
- Crescent shaped knife
- Concave cutting gouge
- Quick welding nozzle (5mm)
- 45E cutter
- Electric groover or laminate trimmer
- Hot air welder C/W attachments
- Cove base adhesive applicator gun & nozzle
- Adjustable tile template
- Divider scriber
- Universal scriber
- Vinyl edge trimmer
- Double hinged scriber
- Heat gun
- Hand roller
- Seam sealer applicator
- Trimming plate
- Hand groover knife
- Linoleum cart

Unit 4: Recommended Minimum Equipment:

- Power stretchers
- Strip cutters
- Knee kicker
- Loop pile cutter
- Carpet seam tractor/roller
- Seaming adhesive applicator & nozzle
- Napping shears
- Stair tool
- Hammer stapler
- Hand stapler & electric stapler
- Wall trimmer
- Cushion back cutter
- Hot melt seaming iron (6 inch)

- Carpet seam weight with plywood bottom
- Carpet cart
- Thimble, carpet needles and circular needles
- Dead man tool
- Straight edge
- 2 foot Square

Unit 5: Recommended Minimum Equipment:

- Drum sander
- Belt sander
- Orbital sander
- Edger
- Wood scrapers
- Disc buffer
- Wood chisels
- Sliding compound mitre saw
- Table saw
- Jig saw
- Door jam saw
- Band saw
- Nailers
  - Pneumatic
  - Manual
- Adhesive
- Splines
- Laminate cutter
- Vacuum cleaner
- Moisture meter
- Router
- Skill saw

Floor Covering Installer

Level 2

Floor Covering Installer – Level 2

Number: **S0056**

Reportable Subject: **APPLIED TRADE CALCULATIONS**

Duration: Total 39 hours Theory 39 hours Practical 0 hours

Prerequisites: Level 1

Content:
S0056.1 On-Site Measuring
S0056.2 Costing Calculations
S0056.3 Estimating

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
70%	0%	30%

Instructional and Delivery Strategies: Lecture and assignment work

S0056.1 On-Site Measuring

Duration: Total 5 hours Theory 5 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.05, U5285.02, U5286.02, U5288.02, U5290.02

GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to perform measurements and calculations on-site to complete quantity takeoffs in accordance with the job requirements.

LEARNING OUTCOMES AND CONTENT

1.1 Describe the on-site measuring methods for various room or stair shapes.

- Rectangular
- Irregular
- Angled rooms
- Various stair types

1.2 Perform measurements on site and transfer to a sketched floor plan.

- Inspect onsite conditions for:
  - floor preparation
  - moving of furniture and appliances
  - baseboards
- Rectangular shapes
- Irregular shapes
- Angled rooms
- Various stair types

S0056.2 Costing Calculations

Duration: Total 9 hours Theory 9 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.05, U5285.02, U5286.02, U5288.02, U5290.02

GENERAL LEARNING OUTCOME

Upon successful completion the apprentice is able to perform costing calculations of both materials and labour for residential and commercial projects in accordance with a specified job.

LEARNING OUTCOMES AND CONTENT

2.1 Perform calculations required to complete material takeoffs for a complete residential job.

- Convert S.I. measurements to imperial measurements
- Convert imperial measurements to S.I. measurements

2.2 Perform calculations required to complete material takeoffs for a specific job.

- Convert S.I. measurements to imperial measurements
- Convert imperial measurements to S.I. measurement

2.3 Calculate the cost of materials and labour (including applicable taxes) using current industry standards such as:

- Disposal of old materials
- Moving of furniture and appliances
- Baseboards
- Preparation of floor

S0056.3 Estimating

Duration: Total 25 hours Theory 25 hours Practical 0 hours

Cross-Reference to Training Standard: U5283.05, U5285.02, U5286.02, U5288.02, U5290.02

GENERAL LEARNING OUTCOME

On successful completion, the apprentice is able to interpret and produce sketched floor plans and blueprints for the production of quantity takeoffs for specified materials.

LEARNING OUTCOMES AND CONTENT

3.1 Interpret sketches and blueprints to determine material takeoffs for complete residential and commercial jobs. Materials to estimate include:-

- Resilient flooring 6' (2m) and 12' (4m)
- Resilient tile
- Carpet
- Carpet tile
- Pattern goods
- Different types of hardwood flooring
- Accessories
  - smooth edge
  - adhesive
  - naploc
  - baseboard
  - undercushion
  - seaming tape

3.2 Create a floor plan for a prescribed area and interpret same for a take off of specified materials.

Floor Covering Installer – Level 2

Number: **S0057**

Reportable Subject: **BLUEPRINTS, SPECIFICATION READING AND LAYOUT**

Duration: Total 39 hours Theory 39 hours Practical 0 ours

Prerequisites: Level 1

Content:

S0057.1 Blueprint Reading
S0057.2 Layout
S0057.3 Blueprint Specifications

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
70%	0%	30%

Reference Materials: Product information as supplied by the manufacturer:

- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

Sample Blueprints and Specification Book

Floor Covering Installer – Level 2

S0057.1 Blueprint Reading

Duration: Total 14 hours Theory 14 hours Practical 0 hours

Cross Reference to Training Standards: U5283.05, U5285.02, U5286.02, U5288.02, U5290.02

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice or trainee is able to read blueprints and determine the flooring products for a specified project in accordance with manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Define the fundamental features of floor plan on up to date blueprints.

- Lines
- Symbols
- Scales
- Dimensions
- Room identifications
- Finish schedules
- Floor plans (typical & special)
- Elevations
- Cross sections
- Details

1.2 Describe the material and installation requirements using information as found in the blueprints including:

- Lines and symbols
- Scales, dimensions, metric : imperial conversions
- Room identifications and finish schedules
- Floorplans (typical & special), elevations, cross sections, details

S0057.2 Layout

Duration: Total 14 hours Theory 14 hours Practical 0 hours

Cross Reference to Training Standards: U5283.05, U5285.02, U5286.02, U5286.07, U5288.02, U5290.02

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice or trainee is able to determine the flooring layout patterns for a project from the blueprints in accordance with the job specifications.

LEARNING OUTCOMES AND CONTENT

2.1 Define the terms layout and traffic patterns as applied to floor covering installations.

- Define the significance of direction of run for various flooring materials
- Define the significance of locating seam and fill locations

2.2 Identify room layout and traffic patterns for various types of floor covering installation.

- Determine seam and fill locations
- Determine the run of the specified flooring material
  - sequence of flooring material
  - carpet and carpet tile
  - resilient sheet goods and tile
  - hardwood flooring
  - pertinent accessories
  - material overage
  - patterned material, i.e. repeats

S0057.3 Blueprint Specifications

Duration: Total 11 hours Theory 11 hours Practical 0 hours

Cross Reference to Training Standards: U5283.05, U5285.01, U5285.02, U5286.01, U5286.02, U5288.01, U5288.02, U5290.01, U5290.02, U5291.01, U5291.02

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to determine the flooring requirements for a project by referencing the job specifications.

LEARNING OUTCOMES AND CONTENT

3.1 Define the terms and features that relate to job specifications.

- Flooring type
- Accessories
- Overage
- Specific layout instructions
- General Conditions
- Addenda
- Change orders and notices

3.2 Identify the material and installation requirements using information presented in the job specification, including:-

- Flooring type
- Accessories
- Overage
- Specific layout instructions
- General Conditions
- Addenda
- Change orders and notices

Floor Covering Installer – Level 2

Number: **S0058**

Reportable Subject: **RESILIENT FLOOR COVERING 2**

Duration: Total 99 hours Theory 24 hours Practical 75 hours

Prerequisites: Level 1

Content:
3.1 Resilient Tile
3.2 Resilient Sheet Goods

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
10%	60%	30%

Instructional and Delivery Strategies: Teacher-led practical skills training with demonstrations.

Reference Materials: Product information as supplied by the manufacturer:

- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0058.1 Resilient Tile

Duration: Total 29 hours Theory 6 hours Practical 23 hours

Cross Reference to Training Standards: U5285.01 to U5285.07

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform the installation procedures for resilient floor tile products in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Determine the steps necessary to take in order to adequately prepare the sub-floor for floor covering jobs.

- List the steps required to perform moisture, bond, and a pH tests.
- State the determining factors for the application of leveling, self-leveling, and patching compounds as per specifications and grade levels.
- Describe the installation techniques for sheet underlayment.
- Determine solutions for installing over an existing floor or the removal and cleanup of existing flooring material (inc. asbestos tile).
- Disposal of existing flooring as per Government Regulations.

1.2 Perform the recommended testing and preparation procedures of sub-floors to accept various flooring materials.

- Perform moisture, bond, and pH tests on different substrates.
- Filling, leveling, and applying self-leveling compounds to substrate as per manufacturers' instructions.
- Install underlayment and patch to wood floors using appropriate staples, screws, and nails and patch joints.
- Remove existing flooring and adhesive, clean up, or apply embossing levelers and specified sealers.

1.3 Describe the installation requirements for resilient tiles.

- Prepare sub-floor
- Vinyl composite tile (VCT)
- PVC wood plank
- Solid vinyl tile
- Linoleum tile
- Conductive tile
- Rubber tiles (slabs)
- Cork tile
- Cork vinyl tile
- Tile coving techniques and repair procedures
- Stair nosing and risers
- Recommended maintenance procedures

1.4 Perform the installation of resilient tiles on difficult and complex floor applications.

- Prepare sub-floor.
- Lay, cut, fit, and adhere resilient tile.
- Install vinyl composite tile VCT with feature strip and borders.
- Install VCT on Diagonal – Full tiled borders.
- Install rubber tiles or slabs.
- Perform coving of given resilient tiles.
- Perform repairs and replacements of resilient tiles.
- Perform recommended maintenance procedures.

S0058.2 Resilient Sheet Goods

Duration: Total 70 hours Theory 18 hours Practical 52 hours

Cross Reference to Training Standards: U5286.01 to U5286.09

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform installation procedures for resilient sheet goods in complex applications in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Describe installation requirements for complex applications of various types of resilient sheet flooring.

- Linoleum
- PVC
- Conductive inlaid
- Rotogravure
- Rubber
- Safety floor
- Backing
  - with full spread and perimeter spread
  - without full spread and perimeter spread adhesives
- Mouldings
- Accessories

2.2 Describe heat welding techniques and repair procedures for various types of resilient sheet flooring.

- Use of prescribed tools
- Prescribed adhesives
- Seam sealers
- Distinguish between pattern match
- Heat welding techniques
- Reverse seam edges

2.3 Explain installation procedures for stair treads and nosings for closed stringer stairs.

- Direct scribe
- Pattern scribe

2.4 Relate type of floor repair to type of floor damage.

- Sub-floor defects
- Impact damage
- Tears, cuts and water

2.5 Perform the installation of resilient sheet flooring on difficult and complex floor applications.

- Prepare sub-floor.
- Lay, cut, fit, and adhere commercial and residential resilient sheet flooring.
- Install linoleum, safety floor and PVC floor in accordance with the manufacturers' specifications.
- Install resilient flooring on closed stringer stairs on pattern and install rubber stair treads and rubber and aluminum stair nosings.
- Perform flash coving, border coving, and heat welding of given resilient flooring.
- Perform repairs and maintenance of resilient sheet flooring.
- Pre-fab flashcove

Floor Covering Installer – Level 2

Number: **S0059**

Reportable Subject: **CARPET FLOOR COVERING 2**

Duration: Total 78 hours Theory 22 hours Practical 56 hours

Prerequisites: Level 1

Content:
4.1 Glue Down Carpet
4.2 Stretch - In Carpet
4.3 Specialty Carpet

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
20%	50%	30%

Instructional and Delivery Strategies: Lecture and assignments

Reference Materials: Product information as supplied by the manufacturer:
- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0059.1 Glue-Down Carpet

Duration: Total 18 hours Theory 2 hours Practical 16 hours

Cross Reference to Training Standards: U5287.01 to U5287.11

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform glue down carpet installation procedures in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

1.1 Describe the application of glue down carpet on boxed or closed stringer stairs and describe how to carpet stringers.

- Application on boxed or closed stringer stairs
- Describe how to install carpet on stringers

1.2 Identify glue down carpet adhesive techniques.

- Direct glue down
- Double glue down
- Release adhesive
- Roller
- Trowel
- Spray applications
- Prescribed adhesives

1.3 Describe glue down techniques for borders.

- Carpet insets

1.4 Identify repair problems and describe their repair solutions.

- Delamination
- Burns
- Missing tufts
- Zippering
- Ripples

1.5 Describe the Sub-floor preparation requirements for adequate glue down carpet installation.

- List the steps required to perform a moisture test, a bond test, and a pH test.
- State the determining factors for the application of leveling, self-leveling, and patching compounds as per specifications and grade levels.
- Describe the installation techniques for sheet underlayment.
- Determine solutions for the removal and cleanup of existing flooring material (inc. asbestos & mold) in accordance with given specifications and environmental requirements.
- Follow the waste disposal procedures according to government regulations.

1.6 Perform testing and preparation of sub-floors for glue down carpet flooring.

- Moisture, bond and pH tests on concrete floors.
- Apply self leveling compounds to fill and level concrete floors.
- Install underlayment using specified staples, screws and nails and patch joints.
- Remove existing flooring and adhesives, clean up and apply levelers and specified sealers.

1.7 Perform layout, cutting, fitting, seaming, and adhesion of glue down carpet (including pattern carpet).

- Direct glue down
- Trowel on
- Double glue down
- Installation and fabrication of custom upholstery and boxes

1.8 Install glue down carpet on boxed or closed stringer stairs and on the stringers.

- Boxed stair installation
- Stringer installation

1.9 Install modular carpet in accordance with manufacturers' specifications.

- Recommended installation environment
- Perform repairs and replacements of glue down carpets.

S0059.2 Stretch-In Carpet

Duration: Total 56 hours Theory 16 hours Practical 40 hours

Cross Reference to Training Standards: U5289.01 to U5289.11

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform the installation procedures for stretch-in carpet in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Describe installation requirements for stretch-in carpet on various types of stairs.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

2.2 Identify seaming techniques such and state their installation procedures for stretch in-carpet borders.

- Installation procedures for:
  - latex
  - acrylic
  - thermoplastic
- Installation procedures for:
  - hand sewing
- Installation procedures for stretch – in carpet borders

2.3 Describe stretching techniques for woven carpets.

- Use of stretching tools
  - power stretcher
  - mini-stretcher

2.4 Describe surging and binding techniques and their application to carpet base.

2.5 Identify stretch in-carpet problems and relate them to their respective repair solutions.

- Delamination
- Burns
- Missing tufts
- Zippering
- Ripples

2.6 Describe the Sub-floor preparation requirements for adequate stretch-in carpet installation.

- List the steps required to perform a moisture test and a pH test.
- State the determining factors for the application of leveling, self-leveling, and patching compounds as per specifications and grade levels.
- Describe stretch-in prep work for difficult substrates such as:
  - Concrete
  - Terrazzo
  - Ceramic
- Describe the installation techniques for sheet underlayment.
- Determine solutions for the removal and cleanup of existing flooring material (inc. asbestos & mold) in accordance with given specifications and environmental requirements.

2.7 Perform the recommended testing and preparation procedures of sub-floors to accept various flooring materials.

- Perform moisture, bond, and pH tests on different substrates.
- Filling, leveling, and applying self-leveling compounds to substrate as per manufacturers' instructions.
- Install underlayment and patch to wood floors using appropriate staples, screws, and nails and patch joints.
- Remove existing flooring and adhesive, clean up, or apply levelers and specified sealers.
- Outline specified maintenance procedures

2.8 Perform the specified installation procedures for various types of stretch-in carpet, on difficult stair and floor applications.

- Lay, cut, fit, seam, and stretch carpet, including pattern carpet.
- Install carpet on various types of stairs including:
  - open two sides, open riser, wrap around
  - bullnose and bird cage
  - hollywood or floating tread.
- Install border carpet and carpet base, hand bind, and seam using hot melt, cold melt, jute & latex, and hand sewing.
- Installation and fabrication of custom upholstery and boxes.
- Perform repairs of delamination, burns, zippering, and missing tufts such as:
  - re-stretch
  - opening existing seams

S0059.3 Specialty Carpet

Duration: Total 4 hours Theory 4 hours Practical 0 hours

Cross Reference to Training Standards: U5287.01 to U5287.11

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to describe the installation requirements of various types of specialty carpet in accordance with current market availability.

LEARNING OUTCOMES AND CONTENT

3.1 Identify and describe installation requirements for specialty carpets including the following:

- Prepare sub-floor
- indoor : outdoor carpet
- wall carpet
- Velcro backed carpet
- self stick backing
- PVC – carpet
- Foam backed carpet
- Artificial Turf
- Area Rugs
- Maintenance procedures

Floor Covering Installer – Level 2

Number: **S0060**

Reportable Subject: **WOOD AND LAMINATE FLOOR COVERING II**

Duration: Total 45 hours Theory 13 hours Practical 32 hours

Prerequisites: Level 1

Content:
5.1 Solid Wood Flooring
5.2 Engineered & Laminate Flooring
5.3 Finishing & Sanding

Evaluation & Testing: Assignments related to theory and appropriate application skills.
Assigned Projects

Mark Distribution:

Theory Testing	Practical Application Testing	Final Assessment
20%	50%	30%

Instructional and Delivery Strategies: Teacher-led practical skills training with demonstration and observation in flooring shop.

Reference Materials: Manuals and Practical exercises based on National Wood Floor Association (N.W.F.A.) Product information as supplied by the manufacturer:
- General installation procedures
- Tool adjustments
- Warranty requirements
- Required installation material
- Conditions for installation

S0060.1 Solid Wood Flooring

Duration: Total 23 hours Theory 7 hours Practical 16 hours

Cross Reference to Training Standards: U5290.01 to U5290.07, U5290.11

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform installation procedures of solid wood flooring in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards

LEARNING OUTCOMES AND CONTENT

1.1 Define the factors that affect the quality and durability of pre-finished or solid wood flooring.

- Moisture and related sources
- Wood's acclimation
- Radiant heating
- Wood species
  - hardness
  - stability
- Grading
- Substrate awareness

1.2 Identify the characteristics of pre-finished or solid hardwood flooring.

- Size
- Style
- Composition
- Adhesives
- Fasteners
- Accessories

1.3 Describe installation requirements for the various types of pre-finished or solid wood flooring as qualified by the specifications and the grade levels.

- Determine installation technique based on location relative to grade and structure of sub-floor
  - nailing
  - stapling
  - adhesives
  - prescribed tools
  - floating

1.4 List the steps required to perform a successful job cleanup and repair of installed floor.

- Remove material cuttings
- Remove or cover glue residue
- Remove installation debris
- Vacuum area
- Touch up or fill voids

1.5 Describe the procedures for the installation of solid wood flooring on various types of stairs including the use of nosings and reducers.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

1.6 Describe the Sub-floor preparation requirements for adequate solid wood flooring installation.

- List the steps required to perform a moisture test, a bond test, and a pH test.
- State the determining factors for the application of leveling, self-leveling, and patching compounds as per specifications and grade levels.
- Describe the installation techniques for sheet underlayment.
- Determine solutions for the removal and cleanup of existing flooring material (inc. asbestos & mold) in accordance with given specifications and environmental requirements.

1.7 Perform testing and preparation of sub-floors for solid wood flooring.

- Install underlayment and patching materials to wood floors using specified staples, screws and nails.
- Remove existing flooring and adhesives, clean up and apply levelers and specified sealers.

1.8 Perform floor covering layout techniques.

- Squaring of given area
- Chalk lines
- Dry lines
- Laser

1.9 Perform cutting and fitting procedures to install solid wood flooring to suit given a floor layout.

- Racking
- Straight cutting
- Angle cutting
- Circular cutting
- Hand cutting and sanding

1.10 Perform installation procedures for solid wood strip flooring.

- Strip flooring
  - inserts
  - diagonal installation
  - herring bone and framing installation
  - lacing
  - splines
- Parquet plank flooring
  - prescribed adhesives
  - inserts
  - diagonal installation
  - herring bone and framing installation
  - lacing
  - splines

1.11 Perform installation procedures for solid wood flooring accessories.

- Reducers
- T-caps
- Baseboards
- Shoe mouldings
- Quarter round mouldings
- Stair nosings

1.12 Perform removal, repair and maintenance procedures for solid wood flooring.

- Use of prybars
- Cut out saws
- Colour matching
- Sanding and finishing
- Cleaning and Protection

S0060.2 Engineered and Laminate Flooring

Duration: Total 8 hours Theory 2 hours Practical 6 hours

Cross Reference to Training Standards: U5291.01 to U5291.09

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to perform installation procedures of laminate flooring in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

2.1 Explain installation methods for engineered and laminated flooring.

- Determine installation technique based on location relative to grade and structure of sub-floor
- Nailing
- Stapling
- Adhesives
- Prescribed tools

2.2 Explain the procedures for the installation of engineered and laminated flooring on the various types of stairs including the use of nosings and reducers.

- Boxed or closed stringer
- Open stringer, one side
- Open stringer, two sides
- Winders or pie-shaped
- Circular or elliptical
- Open riser, wrap around
- Hollywood or floating tread
- Bullnose
- Bird cage

2.3 Perform floor covering layout techniques.

- Squaring of given area
- Chalk lines
- Dry lines
- Laser

2.4 Perform testing and preparation of sub-floors for engineered and laminated flooring.

- Install underlayment and patching materials to engineered and laminated floors using specified staples, screws and nails.
- Remove existing flooring and adhesives, clean up and apply levelers and specified sealers.

2.5 Perform cutting and fitting procedures to install engineered and laminated flooring to suit given a floor layout.

- Straight cutting
- Angle cutting
- Circular cutting
- Hand cutting and sanding

2.6 Perform installation procedures for laminated flooring accessories.

- Reducers
- T-caps
- Baseboards
- Shoe mouldings
- Quarter round mouldings

2.7 Describe removal, repair and maintenance procedures for laminate flooring.

- Use of prybars
- Cut out saws
- Colour matching
- Sanding and finishing
- Cleaning and protection

S0060.3 Finishing & Sanding

Duration: Total 14 hours Theory 4 hours Practical 10 hours

Cross Reference to Training Standards: U5290.08 to U5290.10

GENERAL LEARNING OUTCOMES

Upon successful completion, the apprentice is able to describe finishing and sanding procedures for wood flooring in accordance with government regulations, manufacturer's recommendations and specifications and approved industry standards.

LEARNING OUTCOMES AND CONTENT

3.1 Describe wood flooring materials.

- Identify wood species, hardness, stability and grades
- Identify hardness and stability features of the following wood species.

  Hard Woods
  - pine
  - cherry
  - red oak
  - white oak
  - birch
  - hickory
  - maple
  - ash

  Soft Woods
  - pine
  - poplar

- Describe wood grades
  - firsts and seconds
  - select or better
  - #1 common
  - #2 common
  - #3 common
  - #4 common

- Identify defects and blemishes in wood, and their effect on the grade:
  - white sap
  - stain
  - discoloration
  - loose knots
  - rot
  - checks and splits
  - mineral streaks
  - gum pockets
- Properties of wood
  - appearance
  - moisture content
  - shrinkage
  - weight
  - density
  - working qualities
  - mechanical properties

3.2 Explain finishing and maintenance procedures for solid wood and laminated flooring.

- Explain the methods of repairing unfinished wood floors for finishing
  - dents
  - cracks
  - chipped or split
  - warpage
  - cupping
- Describe the sanding requirements for wood flooring.
  - types of abrasives
  - type of coating used
- Discuss appropriate sanding grits for wood of different porosity.
  - coarse – wood porosity type
    60/80 grit
  - medium - wood porosity type
    100/120 grit
  - fine - wood porosity type
    150/180 grit
  - extra fine - wood porosity type
    220 grit
- Explain the influence of surface preparation on colour control.
  - wood grain – clarity with fineness absence of scratch patterns
  - surface smoothness
  - uniformity of scratch pattern and colour control
  - ability of stains to penetrate, porosity

- Identify surfaces ready for finishing.
  - light inspection/ scratch pattern
  - broken corners
  - defect control
  - control of any "masked parts"

3.3 Describe the composition and characteristics of stain, sealer and top coat materials used on wood flooring.

- Identify and describe the purpose and application of wood filler.
- Identify and describe the purpose and application of sealers and topcoats.
- Identify a variety of common industrial topcoats and state their advantages and disadvantages.
  - sanding sealers
  - catalyzed
  - water based
  - polyurethane
  - conversion varnish
  - acrylics
  - oil base
- Identify the purpose and application of sealers.
  - lacquer based
  - acrylic based
  - sealing of fibers
  - importance of sanding
- Outline the drying process for various finishing materials:
  - evaporation
  - oxidation
  - polymerization
- Outline government and industry safety and environmental protection regulations for finishing applications.
  - VOC (Volatile Organic Compounds)
  - personal protective equipment
  - disposal and storage of materials
  - grounding and bonding
  - general handling of finishing materials
  - environmental awareness
  - eliminate potential for ignition

3.4 Explain how to identify and correct problems with wood flooring installations.

- Test moisture content of flooring with moisture meter
- Determine sources of moisture
- Troubleshoot moisture problems
- Importance of wood acclimation
- Effects of radiant heat
- Defective sub-floor preparation

LEVEL 2 SUGGESTED PROJECTS

- Preparation — Patching - Concrete Patch - Float Floor
- Preparation — Plywood Underlayment - Install Plywood
- Stretch-In — Border Installation - Seam & Stretch
- Stretch-In — Upholstery Project - Carpet 3D Object
- Stretch-In — Stairs - Stringer Installation
- Stretch-In — Stairs - Runner Installation
- Stretch-In — Stairs - Upholstery Installation
- Glue Down — Naploc - Corners and Border Installation
- Glue Down — Repairs - Seam Repair, Rips, and Burns
- Tile — Feature Strip Installation
- Tile — Rubber Tile Installation
- Resilient — Stairs - Rubber Stair Tread Installation
- Resilient — Interflex Installation - Perimeter Install
- Resilient — Coving Installation - Inlaid Vinyl
- Resilient — Coving Installation - PVC Safety Flooring
- Resilient — Border Installation - PVC Flooring
- Resilient — Seam Welding - Welding Rod - PVC Flooring
- Hardwood — Pre-finished Hardwood Installation

- **Total 18 Projects**

SUMMARY OF EQUIPMENT REQUIRED FOR LEVEL 2

Unit 1: Minimum Equipment Requirements

- Calculator
  Tape Measure

Unit 2: Recommended Minimum Equipment:

- Calculator
- Tape Measure

Unit 3: Recommended Minimum Equipment:

- Extension wall roller
- Bar scriber
- Pin Vice
- Recess scriber
- Wall trimmer
- Tile cutter
- Linoleum knife
- Crescent shaped knife
- Concave cutting gouge
- Quick welding nozzle (5mm)
- 45E cutter
- Electric groover
- Hot air welder C/W attachments
- Cove base adhesive applicator gun & nozzle
- Adjustable tile template
- Divider scriber
- Universal scriber
- Vinyl edge trimmer
- Double hinged scriber
- Heat gun
- Hand roller
- Seam sealer applicator
- Trimming plate
- Hand groover knife
- Linoleum cart
- Sand bags

Unit 4: Recommended Minimum Equipment:

- Power stretchers
- Strip cutters
- Knee kicker
- Loop pile cutter
- Carpet seam tractor/roller
- Seaming adhesive applicator & nozzle
- Napping shears
- Stair tool
- Hammer stapler
- Hand stapler & electric stapler
- Wall trimmer
- Cushion back cutter
- Hot melt seaming iron
- Recommended carpet seam weight
- Carpet cart
- Thimble, carpet needles and circular needles
- Dead man tool
- Straight edge
- 2 foot square

Unit 5: Recommended Minimum Equipment:

- Drum sander
- Wood filler
- Belt sander
- Orbital sander
- Edger
- Wood scrapers
- Disc buffer
- Wood chisels
- Sliding compound mitre saw
- Table saw
- Jig saw
- Door jam saw
- Band saw
- Nailers
- Pneumatic & Manual
- Adhesive
- Splines
- Laminate cutter
- Vacuum cleaner
- Moisture meter
- Router
- Skill saw
- Sealer applicators